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Some Observations on Bovine Neoplasia

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INTRODUCTION

Now that much more attention is given to the various pathological conditions of the bovine, opportunities will increase to obtain more exact knowledge regarding neoplasms in this species. Whilst all veterinarians are familiar with the external neoplasms of bovines such as carcinoma of the orbital region, multiple papillomata and fibromata of the skin, the internal neoplasms of this species rarely receive more than casual attention. It is with the object of arousing interest in this branch of veterinary pathology, and perhaps being of some little assistance to veterinarians making *post-mortem* examinations that the present contribution is offered.

SOURCE OF MATERIAL AND STATISTICAL DATA

The material to be reported on was obtained in the course of laboratory control over the working of the Bovine Tuberculosis Order of 1926 covering the period 1932-1940. Under the provisions of this Order local authority veterinary inspectors are required to forward to this laboratory specimens of the lesions found on *post-mortem* examination in the case of all animals slaughtered whether tuberculous or otherwise. In the course of laboratory examination of this material it was felt that neoplastic conditions occurred more frequently than anticipated. Search of the literature for statistical data relative to the incidence of neoplasia in bovines yielded few references and available data were insufficient to form a precise estimate. Detroye (1906) gives the incidence as 1:1,000 among adult cattle and 1:6 000 for calves. Feldman (1932, p. 24) states that "these figures agree with the experience of veterinarians of America who have occasion to examine large numbers of cattle at necropsy." The only reference found giving any indication of the possible incidence in Eire was an indirect one, namely, that of Trotter (1911); most of the tumours in his series were obtained from Irish cows slaughtered at Glasgow abattoir. Trotter (1903) reported the finding at necropsy of 131 cases of malignant neoplasia in 47,362 cattle of all ages, including 1 549 calves, an incidence of 2·8:1,000. If the calves and also the prime beef cattle (2- or 3-year-olds) probably included were omitted it is reasonable to expect that the percentage incidence would have been much higher. The majority (80 per cent.) of the animals from which the writer's specimens were received were dairy cows and were from three to 16 years old (average age seven years). They had thus attained middle or old age, which is generally accepted as the cancer age. The source of this material was admittedly a highly selective one, particularly when it is remembered that the animals were slaughtered because they showed some evidence of chronic disease, tuberculosis being suspected. In these circumstances it is not surprising that a much higher incidence, approximately 10:1 000, was encountered. During the period under review (1932-1940) 21,592 bovines were slaughtered under the Order and on subsequent laboratory examination of the viscera it was found that 214 showed the presence of neoplasms.

In human medicine statistics aim at assessing the relative incidence of malignant growths in the different age groups, particularly subjects of middle and old age, and this method might with advantage be more often applied to the domesticated animals. It is an undisputed fact that in the bovine, as in the human species, the possible incidence of malignancy increases with age, but it is well to remember that malignant growths may appear at almost any age. Not merely growths of a sarcomatous type but true carcinomata have been observed in very young animals. Feldman (1932, p. 291) mentions having found a case of carcinoma of the eye in a yearling bovine; the author's series includes the following cases: Epithelioma of the larynx in a 2-year-old Aberdeen Angus heifer; adeno-carcinoma (liver-cell type) in a 3-year-old Shorthorn heifer and squamous celled carcinoma of the lung in a 3-year-old Shorthorn heifer.

The following table shows the age incidence of the 214 neoplasms in the present series and their relation to tuberculosis.

Age in years.	*Number of Animals. Neoplasia.*	*Tuberculosis.*	*Co-existent tuberculosis and neoplasia.*
1	3	51	—
2	5	630	—
3	7	1,680	—
4	10	1 941	—
5	7	2,181	—
6	24	2,636	1
7	28	2,484	1
8	38	2,352	1
9	26	1,224	3
10	29	1,245	1
11	10	282	1
12	16	561	2
13	2	93	—
14	2	135	—
15	3	159	—
16	4	51	—
Totals	214	17 705	10

To give a detailed description of the features and distribution of each individual tumour found would be too space consuming and involve much needless repetition. It is proposed to confine this aspect of the paper to a list giving a classification of the neoplasms encountered and brief descriptions of the naked-eye and microscopical appearances of some of the principal types, particularly as they affect the liver, lungs, lymphatic glands and serous membranes, parts of the carcase most frequently examined for evidence of tuberculosis.

GENERAL CLASSIFICATION OF TUMOURS

Squamous-cell or epidermoid carcinoma	92
Hepatoma (Hepatocellular carcinoma)	48
Carcinoma (bile duct origin)	1
Carcinoma (bronchogenic origin)	1
Adeno-carcinoma	18
Lymphocytoma	34
Sarcoma (large round-cell)	7
Sarcoma (oat-cell)	1
Sarcoma (spindle-cell) or Fibro-sarcoma	6
Adenoma	1
Multiple lipomata	1
Nasal polyp.	2
Myxoma	2
Total	214

LIVER

There were 69 cases of neoplasia affecting this organ and, of these, 50 were primary and 19 were secondary.

(*a*) *Primary.*—Hepatocellular carcinoma 48; Adenoma 1; Carcinoma (bile duct) 1.

(*b*) *Secondary.*—Carcinoma (squamous cell) (Fig. 1) 12; Carcinoma (bronchogenic) 1; Adeno-carcinoma 5; Sarcoma (spindle cell) 1.

The predominance of liver cell carcinomata corresponds with the findings of other investigators. This type of growth presents many interesting features and is recognised as one of the commonest malignant internal tumours of bovines. Liver cell carcinomata are accepted as being of a low degree of malignancy, particularly as regards metastasis. Invasion of the portal and hepatic veins is of frequent occurrence, but only in a small percentage of cases were extrahepatic secondaries found and these were confined to the lungs and the bronchial and hepatic lymphatic glands. When growth is well advanced the liver presents a very characteristic appearance; almost all the liver parenchyma may be replaced by neoplastic growth and enlargement and distortion of the organ may be very striking. Trotter (1904) mentions a liver so affected weighing 80 lb. and in one instance in the present series the veterinarian concerned stated that the liver weighed

almost 112 lb. Enlargement of the liver to this extent is, however, very exceptional; considerable variations in size occur and in some instances growth or growths are very small. When circumscribed, tumours of this type found in the course of the investigation varied in size from that of a walnut to that of a coco-nut, but in a number of cases the lesion was so extensive and ill-defined that its actual size was difficult to determine. Usually only a single growth was present, but occasionally a number of intrahepatic secondaries were noted. The smaller tumours were fairly firm in consistence, the larger ones less so, and might often be described as very soft or mushy. Most commonly of a greyish-white colour, these hepatocellular tumours, especially the larger ones, often present a very characteristic variegated or mottled appearance due to an admixture of greyish, yellowish, reddish, brownish and greenish areas representing respectively tumour tissue, necrotic areas, haemorrhagic centres, surviving islets of liver parenchyma and bile pigmentation. Encapsulation is usually irregular and incomplete. Parts of the larger tumours may show distinct connective tissue encapsulation while in other parts this capsule is rudimentary or absent and tumour cells are found closely intermingled with those of the liver parenchyma.

Microscopically the essential elements of the tumour consist of masses of polyhedral cells arranged for the most part in cords or columns and lacking the orderly radial arrangement of normal liver tissue. The tumour cells show an unmistakable resemblance to normal liver cells, but greater irregularities in shape and size occur and greatly enlarged nuclei with prominent nucleoli are an almost constant feature. The cytoplasm of the tumour cells is usually more basophilic than that of normal liver cells. Mitotic figures are as a rule few. Small haemorrhages and areas of necrosis are common. The stroma is generally scanty and it is usually only at the periphery of the growth that distinct connective tissue formation is present separating the tumour cells from the compressed and flattened cells of the liver parenchyma. (Figs. II, III illustrate some of the histological features described.)

One case of liver tumour has been diagnosed as primary adenoma because of complete encapsulation and lack of evidence of aggressive or infiltrative growth. It is, however, advisable to remember when dealing with such conditions as hyperplasia and adenoma of liver cells that they may represent the preliminary steps towards malignancy. This solitary, circumscribed tumour diagnosed as adenoma was about the size of a walnut white in colour and of fairly soft consistence. Microscopically the cells closely resembled in appearance and arrangement those of the liver cell carcinomata but basophilia of the cystoplasm was less in evidence. The component cells and their nuclei though larger than normal liver cells did not show such irregularities in size and shape as were seen in the hepatic cell carcinomata. Nucleolar enlargement was not so marked and mitotic figures were not seen. There was no evidence of necrosis or other degenerative change.

In the bovine as in man carcinoma arising from the bile duct epithelium is rare compared with liver cell carcinoma. Only one case of cholangiocellular carcinoma was encountered. In this instance the growths were multiple, firm in consistence, yellowish-white in colour and the average size was that of a bean. The margins of the growths were ill-defined and macroscopic examination did not reveal any evidence of encapsulation. The liver showed evidence of coarse cirrhosis due to *Fasciola hepatica* infestation. Microscopically the tumour cells resembled those of bile duct epithelium and where acinus formation was prominent the cells were columnar with a proximal oval or elongated nucleus. In parts the main picture was an exaggerated proliferation of the bile ducts. In other areas acinus formation was absent, the tumour cells being arranged in solid alveoli and more spherical than columnar. It was only those cells contiguous to the stroma that showed the polarised appearance previously described. A well-developed connective tissue stroma was present.

In describing liver neoplasms most authors have stressed the fact that the majority of their cases were associated with cirrhosis, but the writer's experience coincided rather with that of Jackson (1936 p. 151) in that "no constant relation with cirrhosis was noted and most of the tumours were found in otherwise normal livers." Only 30 per cent. of the neoplasms of hepatocellular type in the present series were associated with cirrhosis.

Lungs

In contrast to the liver, primary neoplasms of the lungs are considered rare. Two main types of primary carcinoma are described in the literature, *viz.*, those arising from the intrapulmonary bronchi and those considered to arise from the pulmonary parenchyma. Admirable descriptions and photomicrographs of both types are given by Jackson (1936). Only one neoplasm in the present series was suggestive of lung origin and this was diagnosed as bronchogenic carcinoma. In this case deep-seated, firm, ill-defined, yellowish, carcinomatous growths were present in the lung and liver, but the related lymphatic glands were unfortunately not available. (Fig. IV.)

The most common tumour met with in the lung was squamous-cell or epidermoid carcinoma, representing metastases from a primary elsewhere, such as skin, oesophagus, rumen, etc. This type of growth was encountered in 64 animals. In the majority of cases keratinisation was not very well marked, but in view of the excess of fibrous tissue present most of them might be described as scirrhous carcinomata. With a little experience this type of tumour could readily be recognised by its macroscopic appearance. Growths were for the most part subpleural in position and wedge shaped, conforming in shape and outline to the lung lobules. Even where extensive areas of the lung were involved neoplastic lesions were found to retain this lobular appearance due to subdivision into wedge-shaped areas by trabeculae of fibrous tissue, the white colour of which was in marked contrast to the bright yellow of the tumour tissue. Microscopically the tumour tissue consisted of an extensive fully formed connective tissue framework supporting aggregations of epithelial cells of a squamous type. The stroma in all cases greatly exceeded the epithelium in amount. (Figs. V, VI, VII.) In a large number of cases the pleura, bronchial and mediastinal lymphatic glands, and less frequently the liver, were also involved.

Next in importance in regard to frequency of occurrence in the lungs were lymphocytoma and other tumours of a sarcomatous nature. In contradistinction to the epidermoid carcinomata these growths were of a fleshy type and at times the consistence was that of a ripe plum. Usually numerous and for the most part subpleural in position, nodules were discrete, spherical, greyish-white, and varied in size from that of a pin head to that of a golf ball. Sometimes diffuse masses of neoplastic tissue were formed, due to confluence of a number of growths. There was no naked-eye evidence of encapsulation, but some of the larger discrete growths could with little difficulty be almost completely enucleated. Microscopically the neoplastic tissue consisted of compact masses of cells and a scanty connective tissue stroma. The type cell in the majority of cases conformed to the round cell type to be later described when dealing with tumours of the lymphatic system, but occasionally the component cells were of the large round cell or the spindle cell varieties. When spindle celled the neoplasms were generally of a much firmer consistence. Figs. VIII, IX, X illustrate some of the cell types encountered. Secondary adeno-carcinomatous growths were found affecting the lungs on nine occasions. Usually of a greyish-white colour, spherical in outline, though firmer in consistence, these neoplasms rarely approximated to the scirrhous type previously described. Histological examination showing the glandular arrangement of the epithelial cells facilitated diagnosis. Figs. XI and XII show this type of growth in a lymphatic gland.

Lymphatic Glands

Metastases in the lymphatic glands of squamous-cell carcinomata hepatomas and adeno-carcinomata have already been mentioned. This section is, therefore, confined to consideration of the more interesting condition of bovine lymphocytoma, under which heading it is considered advisable to group conditions of a neoplastic nature arising from the lymphoid elements. The autopsy and clinical records available, together with the histological examination, did not in most cases warrant a more detailed classification. No blood examinations were made and in many cases no information was obtained as to the condition of the spleen, liver or bone marrow. Study of the literature shows that genetically related or even identical diseases of the lymphoid system have been described under a variety of names such as lymphadenomatosis, lymphocytoma, lymphosarcoma, round-cell sarcoma, pseudo-leukaemia, lymphatic leukaemia, etc. What is described in this article as bovine lymphocytoma is characterised clinically by general or widespread gross enlargement of the lymphatic glands. In some cases all the lymph nodes were stated to be involved, the spleen enlarged and nodular growths of a similar lymphoid nature were to be found in many situations including the lungs and kidneys. The affected glands showed no evidence of caseation, suppuration or other observable inflammatory change. The capsules were thin and usually tense and bulged on section after the manner of an incised testicle. The cut surface was greyish-white to greyish-yellow and presented a moist, glistening and homogeneous appearance. Little of the normal markings of the gland remained and the distinction between cortex and medulla had usually disappeared. The consistence was soft, often that of a ripe plum. In a number of cases numerous haemorrhagic centres were noted. Histological study showed the lesion to be composed of compact masses of cells of a lymphoid nature and a very fine and scanty stroma. The type cell was spherical or ovoid with a narrow to moderate zone of cytoplasm surrounding a prominent and at times strongly basophilic nucleus. Mitotic figures were a usual feature. (Fig. X.)

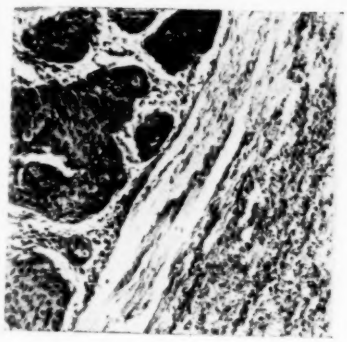

FIG. 1

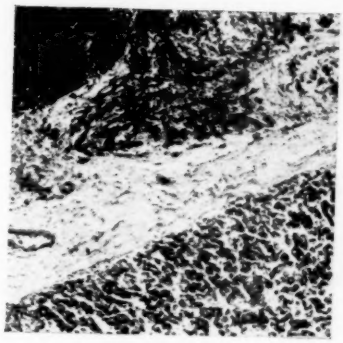

FIG. 2

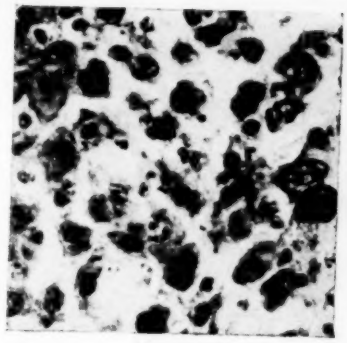

FIG. 3

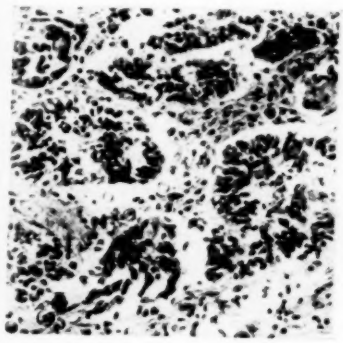

FIG. 4

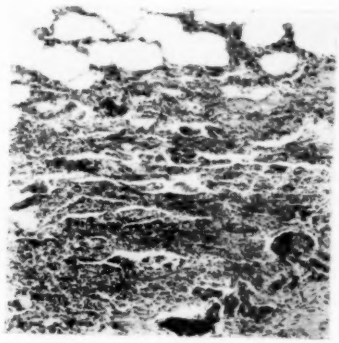

FIG. 5

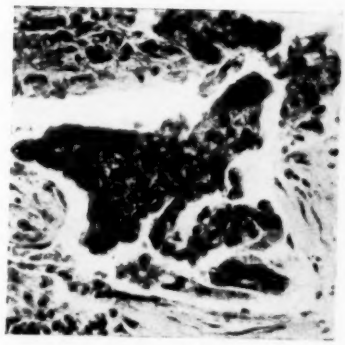

FIG. 6

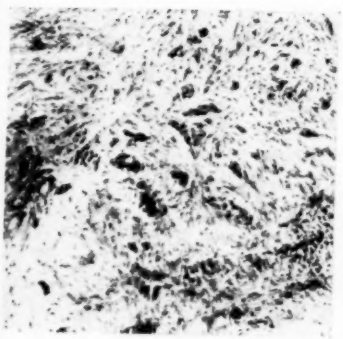

FIG. 7

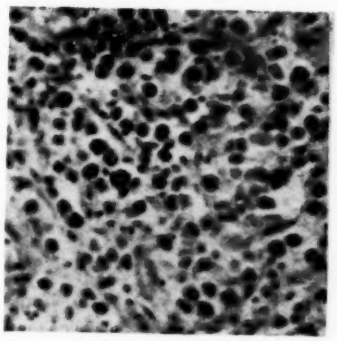

FIG. 8

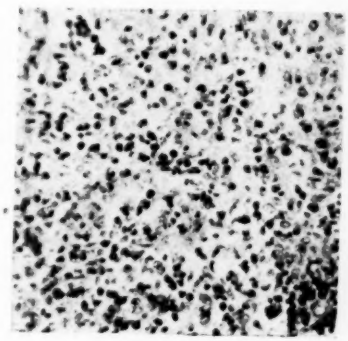

FIG. 9

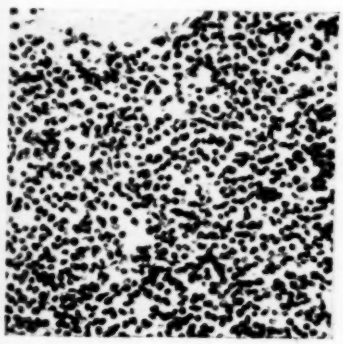

FIG. 10

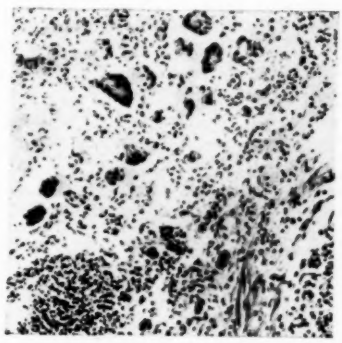

FIG. 11

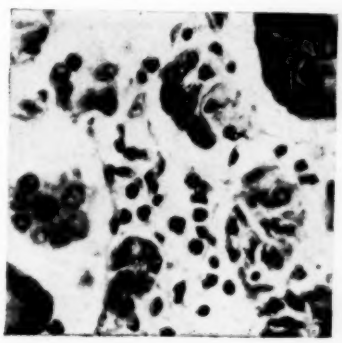

FIG. 12

Perusal of the literature shows that this lymphatic disease is of world-wide distribution, and in spite of the confusion caused by variations in nomenclature, it is apparent that it is in most countries not an uncommon pathological condition of bovines. Thompson (1942) states that in his experience lymphocytoma is the most common malignant neoplasm of cattle in the U.S.A. Feldman (1932, p. 204) suggests that if all species are considered, lymphoblastomata probably occur with greater frequency than any of the other neoplasms which affect the lower animals. The number of cases (34) met with in the present investigation suggests that lymphocytoma is not a rare disease of cattle in Eire. Bovines of all ages may be affected. With the exception of the one case of carcinoma already mentioned all the neoplasms noted in yearlings or two-year-olds were of this type.

Serous Membranes

Primary serosal tumours are said to be infrequent. Innes (1940) states that the majority of tumours spreading superficially over the peritoneum or pleura are secondary carcinomas. The writer's experience in dealing with material from bovines coincided with this view, but it was also found that tumours of a sarcomatous nature in these situations were not uncommon and in one instance a diagnosis of multiple lipomata appeared to be justified. On occasion a solitary or a few neoplastic lesions were found, but the most interesting pathological picture is that in which the serous membranes, in most cases the parietal and visceral peritoneum including the capsules of the liver, spleen, kidneys, the mesentery and omentum, were studded with innumerable small tumours of more or less uniform size. These growths, especially when confluent, presented a superficial resemblance to the "grape" lesions of tuberculosis. There were, however, a number of important macroscopic features which aided differentiation. The serosal neoplasms were of a more sessile nature, sometimes appearing to be vertically compressed, and markedly pedunculated forms such as are met with in tuberculosis were rarely seen. Growths were very regular in outline, usually spherical, and presented a moist glistening or opalescent appearance. The tumours often appeared as if bathed in serous fluid and on occasion a large volume of such effusion was present in the peritoneal cavity.

Malignancy

On examining a large number of sections from neoplasms one cannot fail to be impressed by the extraordinary range of variation as regards structure, behaviour and evidence of malignancy exhibited by various tumours of identical cell type. It is usual to think of tumours simply as "benign" or "malignant" and it is seldom that the existence of varying degrees of malignancy is emphasised. Immunity and host resistance are repeatedly stressed by the bacteriologist in relation to bacterial diseases, but rarely are these terms used in connection with neoplasia. Resistance there undoubtedly is, and even if knowledge of absolute immunity is lacking there is abundant evidence that in some cases growth and metastasis of malignant tumours is greatly retarded by the body defensive mechanism. It is clear that a struggle goes on between malignant cells and normal body cells, and while, generally speaking, the struggle is an uneven one, it is evident that the malignant cells suffer heavy casualties. Connective tissue reaction may be so great as to cause compression and degeneration of masses of tumour cells; lymphocytes and plasma cells may invade malignant cells and lead to their atrophy. Usually, however, this phenomenon is only to be observed in certain parts of a malignant tumour and elsewhere growth appears to be unchecked.

Differential Diagnosis

It was not always possible to differentiate macroscopically between neoplasms and the lesions of tuberculosis, actinobacillosis and other granulomata. Experience of a great number of cases of a particular disease shows what remarkable variations from the classical picture may be met and the value of microscopical examination of smears or sections. In the case of tuberculosis some of the variations are probably due to the different types of the bacillus, but there appear to be other factors. It was noted that one atypical macroscopic picture could with reasonable certainty be associated with a particular county. Clinically gross enlargement of the superficial lymphatic glands in bovine lymphocytoma has been confused with glandular tuberculosis. The multiple, opalescent serosal nodules of carcinoma and other forms of neoplasia have on occasion been described as "grape" lesions of tuberculosis. The lesions of actinobacillosis met with, particularly as they affect the lungs, were very typical and with a little experience could readily be differentiated from neoplasia on naked-eye appearances. These nodular lesions were very soft spongy in appearance, yellowish-grey in colour with yellowish pus oozing from the cut surfaces particularly when squeezed. Evidence of encapsulation was as a rule well marked. In a number of cases the lesions were multiple and large areas of the lungs were sometimes involved. The causal organism could usually be readily demonstrated. Two cases of streptococcic granulomata received, one in a lung and another case in which the visceral pleura was involved, presented more difficulty and macroscopically presented a close resemblance to fibromata or fibrosarcomata. The demonstration on microscopical examination of sections from these two lesions of numerous minute, uniformly distributed abscess centres showing chains of streptococci facilitated diagnosis.

DISCUSSION

It is realised that this paper has many limitations, one of the main ones being that in a number of instances it was not possible to state the situation of the primary growth and consequently there was at times a lack of precise knowledge as to the origin of the type cell present. Veterinary inspectors were mainly concerned with tuberculous lesions and for this reason it is possible that a number of neoplasms may have been overlooked. It is worthy of record that 17,705 of the specimens received during the period under review showed tuberculous lesions, but that in only ten of the 214 cases showing neoplasia was there co-existent tuberculosis. It was also noted that the area showing the lowest percentage incidence of tuberculosis showed the highest percentage incidence of neoplasia. The precise significance, if any, of these latter observations is difficult of interpretation.

Summary

(1) Some statistical data as to the incidence of neoplasia in bovines are discussed.

(2) Tables are given showing classification and age distribution of 214 cases of neoplasia encountered in the course of laboratory control over the working of the Bovine Tuberculosis Order (1926) in Eire.

(3) Short descriptions are given of the main naked-eye and microscopical appearances of some of the principal types noted.

(4) Brief comments are made on the questions of malignancy and differential diagnosis.

Acknowledgments.—I am deeply indebted to my Director (Mr. J. H. Norris, M.R.C.V.S.) and my laboratory colleagues for their encouragement and help in this work, to Dr. J. R. M. Innes for confirmation of some of the diagnoses and to W. Kampff, School of Pathology, Trinity College, Dublin, for photomicrographs.

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Key to Figures

Fig. 1.—Epidermoid carcinoma liver. × 100. H. & E.

Fig. 2.—Hepatocellular carcinoma below separated from liver parenchyma above by a prominent connective tissue septum. × 100. H. & E.

Fig. 3.—Higher magnification of some of the neoplastic cells shown in Fig. 2. × 250. H. & E.

Fig. 4.—Bronchogenic carcinoma of the lung. × 150. H. & E.

Fig. 5.—Squamous-cell carcinoma of the lung. × 50. H. & E.

Fig. 6.—Higher magnification illustrating one of the clusters of tumour cells shown in Fig. 5. × 250. H. & E.

Fig. 7.—Another example of the squamous-cell carcinomata described. Although section was very broken up, photomicrograph illustrates clearly the scirrhous nature of the growth. × 50. H. & E.

Fig. 8.—Large round cell sarcoma in the lung showing compact masses of cells with little intercellular tissue. × 160. H. & E.

Fig. 9.—Sarcoma ("oat celled") in the lung. × 160. H. & E.

Fig. 10.—Lymphocytoma in the lung. Showing closely packed masses of cells of a lymphoid nature and a very scanty stroma. × 160. H. & E.

Fig. 11.—Showing small well-formed glandular alveoli found in the peripheral sinus of a lymph node. × 50. H. & E.

Fig. 12.—Higher magnification of Fig. 11. × 250. H. & E.

CLINICAL COMMUNICATION

Some Observations upon the use of Carbachol in Veterinary Practice

JOHN F. BRADLEY, M.R.C.V.S.
FISHGUARD

Probably most practitioners have had experience of the use of carbachol in horse practice, particularly in cases of flatulent colic, but the full field of therapeutic use consequent upon its stimulation of the parasympathetic system, has not, I think, been generally explored. I cite the following as an example of the use of this agent in a case of "choke."

Subject.—A five-year-old Shorthorn cow.

History.—Had been "folded" on turnips.

Examination.—Respirations rapid and painful. Animal grunting and making strenuous efforts to cough. Tympanites extreme but not yet critical.

Treatment.—The animal's excited movements coupled with the inadequate assistance available rendered the passing of the probang a hazardous project. The subcutaneous injection was, therefore, made of 4·25 c.c. carbachol (B.D.H.). Within five minutes salivation was profuse, swallowing movements became pronounced and frequent, and were followed by repeated eructations. The tympanitic swelling began to subside and in 20 minutes undue distension of the left flank was no longer visible.

I have found that cattle in general tolerate much larger quantities and more frequent administration than do horses. Carbachol is of pronounced value also in stubborn and urgent cases of rumenal atony, independent of or associated with tympanites.

In small-animal practice I have used the 1:10,000 solution. Small doses have a striking tonic effect in cases of temporary digestive disorder. The following is one example of the use of this drug in many cases of intestinal obstruction:—

Subject.—A six-year-old bulldog bitch.

History.—Had been constipated for five days.

Examination.—The animal was dull and listless. Rectal examination proved the absence of any solid body.

Treatment.—Four c.c. of carbachol, 1:10 000 solution (B.W.), were injected subcutaneously.

The owner subsequently reported that about half an hour after the injection the animal passed fluid and copious faeces. When re-examined next day the bitch was completely normal and full of vitality.

I do not recommend the use of carbachol where sharp fragments of bone can be felt per rectum, nor, without due caution, in cases of oesophageal obstruction. In canine practice, the latter type of case is frequently caused by objects sharp in nature and in consequence of this the spasmodic contraction of oesophageal plain muscle induced by parasympathetic stimulation may result in dangerous injury.

SHORTAGE OF BLACKSMITHS

The Royal Norfolk Agricultural Association was urged at its annual meeting to offer scholarships for harness-making and blacksmiths. The matter was raised by Mr. R. J. Read, who pointed out that farmers were having to take horses in lorries to blacksmiths some miles away. The position was equally difficult with regard to harness-makers. Young men were not following these callings, and if it were possible for the Association to give some sort of scholarship it might be helpful. Otherwise it would not be many years before farmers would be unable to get horses shod at all or harness repaired.

Mr. R. G. Carter said unless blacksmiths could be assured of a good livelihood, they would not get boys to go into the trade. He said he had been waiting for an apprentice to his own blacksmith for twelve months and had not had one application.

The meeting decided to leave the matter of offering premiums for apprenticeships to the Executive Committee, who were empowered to allocate to this purpose a sum of £200.

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WEEKLY WISDOM

I believe that agriculture in this country can have a great future. . . . But I also believe that it will succeed only if it can prove both to the nation and to the world that it is efficient and can worthily take its place in the national economy on equal terms with other industries. Let us work together to this great end.—Mr. R. S. HUDSON, Minister of Agriculture.

ABSTRACTS

[Observations on the Use of Sulphonamides for Calf Scours and Pneumonia. THORP, W. T. S. (1943.) *Amer. J. vet. Res.* 4. 374.]

Thorp states that most investigators consider that *Bacillus coli* is probably responsible for calf scours, while various aetiological agents may be involved in calf pneumonia. Calf scour is generally of a more severe nature, and less amenable to treatment, in animals under a week old. Pneumonia is most frequently observed in animals two to ten weeks old, and may follow calf scour.

Sulphapyridine was found to have beneficial effects on cases of pneumonia, but to produce toxic symptoms unless the dose was reduced every two days, young animals being especially susceptible. Therapeutic doses were 0·75 grain per lb. body weight for animals up to 70 lb., 0·9 grain per lb. body weight between 70 to 100 lb. weight, and 1·0 grain per lb. body weight for animals over 100 lb. Normal calves tolerated considerably higher doses of sulphadiazine and sulphathiazole, and both drugs were found useful for the treatment of pneumonia in its early stages; therapeutic doses were the same as for sulphapyridine.

Sulphaguanidine temporarily reduces the number of coliform organisms in the alimentary tract of normal calves and was found useful in the treatment of calf scours, 1·0 grain per lb. body weight being given to calves under 75 lb. and 2 to 2·5 grains per lb. body weight for heavier animals. These doses cannot be much increased without the production of severe nephritis.

Sulphasuxidine reduces the number of coliform organisms in the intestinal tract of normal and scouring calves. Therapeutic doses, 3·5 grains per lb. body weight for animals under 100 lb. and 3·5 to 5 grains per lb. body weight above this weight, appear to be helpful in scouring animals, but do not affect the general incidence when given to newborn calves as a prophylactic measure. Nearly double the therapeutic dose could be given to normal calves without toxic effects.

Clinical manifestations of excessive doses of toxic sulphonamides consisted of pain in the lumbar region, colic-like symptoms, and stiffness of the limbs in severe cases. J. J. B.

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[Does the Bull Spread Infectious Abortion in Cattle? THOMSEN, A. (1943.) *J. comp. Path.* **53**. 199-211.]

This article continues the account of the work done on this subject on the experimental farm of the State Serum Laboratory, Copenhagen.

Experiments were designed to demonstrate if the disease could be contracted from the infected bull, and whether the bull could act as a passive vehicle for infection.

Four bulls excreting *Br. abortus* in their semen were used to serve 27 sexually mature heifers. None of the heifers aborted, 19 calved normally, and eight failed to conceive.

Heifers were also served by bulls immediately after the bulls had copulated with recently aborted cows excreting *Br. abortus* in their vaginal discharges. Twenty heifers were exposed to possible infection from three bulls, the three bulls being contaminated by five cows which had aborted. None of the heifers aborted, 14 calved normally. The author does not consider that copulation is a significant cause of spread of *Br. abortus* infection. D. L. H.

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[I.—*C. equi* in the Submaxillary Lymph Nodes of Swine. COTCHIN, E. (1943.) *J. comp. Path.* **53**. 298-309; **II.—Tubercle Bacilli in Lesions of the Submaxillary Lymph Nodes of Swine.** COTCHIN, E. (1943.) *J. comp. Path.* **53**. 310-314.]

I.—The author reviews the literature relating to the distribution of *Corynebacterium equi* in animals and has studied the incidence of this organism in the submaxillary lymph glands of pigs and its role in the causation of tuberculous-like lesions of these glands. From 86 pigs the submaxillary glands of which were suspected to be affected with tuberculosis the organisms isolated were as follows: *C. equi* alone in three, tubercle bacilli alone in 63, and both organisms in five cases. From a further series of 50 pigs whose glands showed no abnormality, *C. equi* was isolated in one case.

A complete description of the morphology, cultural and biochemical characteristics of the organism is given; it is able to survive exposure to a 2·5 per cent. solution of oxalic acid for 60 minutes and use is made of this fact for its isolation from tissues. Although injection either of the living or dead organism did not give rise to the production of agglutinins in rabbits a positive precipitin test could be demonstrated. Pathogenicity tests in laboratory animals and pigs showed that the virulence of *C. equi* is low since it produced no more than local suppurative lesions. The author concludes, therefore, that the evidence suggests that this organism plays no part in the aetiology of tuberculosis-like lesions in swine.

II.—From the submaxillary lymph glands of 86 pigs apparently affected with tuberculosis lesions, tubercle bacilli were isolated from 68 cases. Of these strains 12 were of the avian type, ten probably of the same type and 46 of the mammalian, probably bovine, type. The author shows that these findings are in agreement with the distribution given by other workers and discusses their aetiological significance.

S. J. E.

REVIEW

[**The Practice of Veterinary Medicine.** D. H. Udall, B.Sc., D.V.M., D.Sc. Fourth revised edition, 1943. Obtainable from Baillière, Tindall & Cox, 8, Henrietta Street, W.C.2. Price 35s.]

It is always refreshing to read a veterinary text-book which, while well referenced, is largely based on the personal experience of the author, and which leaves out much out-dated and unimportant detail to make room for more material of clinical importance. This is the more so when the book is regularly kept up to date, and Dr. Udall is to be congratulated upon producing a fourth revision within ten years of the publication of the original work.

This edition does not differ materially from the last, but includes a lot of newer knowledge on endoparasites, and a useful chapter on allergy. The "sulpha" compounds are also included in the book, but the use of this group of drugs has so revolutionised the treatment of many diseases that one feels the author might have been well advised to rewrite some of the sections on treatment, rather than add paragraphs to them. British readers may feel that the chapter on mastitis is not well balanced as so little reference is made to types other than streptococcal.

It is disappointing to find no chapter on trichomoniasis amongst the protozoal diseases, but this, with diseases of the reproductive organs, may well have been deliberately omitted as forming a separate subject, not within the sphere of true medicine.

It may also be regretted that there is no reference to some of the infectious diseases of sheep which are so prevalent in this country.

The subject of "Medicine," however, is so vast that it is perhaps unfair to cavil at some omissions, and the new edition of the book can fairly be said to have improved an already accepted text-book of value alike to student and practitioner.

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Mar. 2nd.—Meeting of the Central Veterinary Society at Conway Hall W.C.1, 2 p.m.
Mar. 3rd.—Annual General Meeting of the South Wales Division, N.V.M.A., at Carmarthen, 1.30 p.m.
Mar. 3rd.—Meeting of the Scottish Metropolitan Division, N.V.M.A., at Edinburgh, 2.15 p.m.
Mar. 8th.—Meeting of the Editorial Committee, N.V.M.A., 36, Gordon Square, W.C.1 (future meetings also will be held on the *second* Wednesday of the month).
Mar. 8th, 1944.—**Grant of Charter to R.C.V.S., 1884.**
Mar. 16th.—N.V.M.A. Committee Meetings at 36, Gordon Square, W.C.1.
Mar. 17th.—**Meeting of Council, N.V.M.A.**, at the London School of Hygiene and Tropical Medicine, W.C.1.
Mar. 29th.—R.C.V.S. Committee Meetings.
Mar. 30th.—**R.C.V.S. Council Meeting.**
April 1st.—R.C.V.S. Annual Fee due.
May 9th.—**R.C.V.S. Council Election.** Last date for receipt of nominations.
May 22nd.—R.C.V.S. Council Election. Voting papers issued.
May 30th.—R.C.V.S. Council Election. Last day for receipt of voting papers.
June 6th.—**R.C.V.S. Annual General Meeting.**
June 7th.—R.C.V.S. Committee Meetings.
June 8th.—**R.C.V.S. Council Meetings.**
June 27th.—R.C.V.S. Examinations begin (provisional date).

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N.V.M.A. Council and Committees

As intimated above, the next meeting of Council, N.V.M.A., will be held at the London School of Hygiene and Tropical Medicine, W.C.1, on Friday, March 17th.

There will be meetings of Committees at 36, Gordon Square, W.C.1, the previous day.

PERSONAL

Appointment.—The appointment in the Colonial Veterinary Service is announced of Mr. E. Dixon, B.Sc. (Edin.), M.R.C.V.S., as Veterinary Officer, Nigeria.

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Marriages.—Callear—Roberts.—On Saturday, February 19th, 1944, at St. Mary's Cathedral, Glasgow, Sub-Lieutenant (A) John Frederick Fenger Callear, R.N.V.R., only son of Mr. and Mrs. Percy Callear, of Kelvin Cottage, Windmill Lane, Bushey Heath, Herts, and Norah Elise, younger daughter of Mr. and Mrs. T. E. Roberts, of Kelvindale, Glasgow.

Spriggs—Taylor.—At St. John's Church, Redhill, on February 22nd, 1944, David Neville Spriggs, B.Sc., M.R.C.V.S., youngest son of Dr. and Mrs. N. I. Spriggs, of Leicester, to Mary Louvain youngest daughter of the late Mr. John Taylor and Mrs. Taylor, of Bideford, Devon. Mr. Roger Arnold, B.Sc., M.R.C.V.S., was best man.

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Royal Veterinary College.—Sir Jocelyn Lucas, M.P., has been elected a Governor of the Royal Veterinary College.

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University of Cambridge.—John Archibald Laing, B.Sc. (Edin.), M.R.C.V.S., of Christ's College, has been approved for the degree of Doctor of Philosophy.

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R.C.V.S. OBITUARY

Hall, Thomas F., Lyndhurst, St. John Street, Huntingdon. Graduated Edinburgh, June 1st, 1899. Died February 10th, 1944; aged 71 years.

McDougall, Allan Hislop, Capt. late R.A.V.C., The British Bloodstock Agency, Ltd., 26, Charing Cross Road, W.C.2. Graduated London, July 15th, 1910. Died February 11th, 1944.

Stothert, William, O.B.E., Major R.A.V.C. (T.F.) (retd.), 568, Holdenhurst Road, Bournemouth. Graduated N. Edinburgh, May 30th, 1889. Died February 16th, 1944; aged 75 years.

Mr. T. F. Hall, M.R.C.V.S.

Mr. Thomas Frederick Hall, whose death we record above with much regret, passed away at Northampton following an operation.

Mr. Hall went to Huntingdon in 1920, succeeding Mr. Masterman in the practice. During the last war he was an acting Captain in the Staffs. Regiment for a short period.

Mr. Hall was descended from the ancient Scottish family of Wedderburn. His forbears settled in London and his grandfather became an alderman of the City of London. His favourite recreation, dating from student days in Scotland, was painting in oils and water colours.

Mr. Hall's first wife died eleven years ago and there are two sons—Mr. Ian Gordon Hall and Mr. Raymond F. Hall, C.A. Two years ago Mr. Hall married again, and deep sympathy is felt for those bereaved.

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Major William Stothert, O.B.E., M.R.C.V.S.

Major Stothert's death is a severe loss to the community among whom he practised: he had devoted his life to the welfare of animals and, as he would have wished, was engaged in his work as a veterinary surgeon at the time of the seizure from which he died.

Born at Atherton, near Bolton, after graduation he assisted in a practice at Sheffield before commencing to practise on his own account at Blackburn. In 1910, with his family, he settled in Bournemouth, and at the outbreak of the last war immediately offered his services, joining the Royal Army Veterinary Corps in 1914. He was soon placed in command of the largest hospital for sick horses in the United Kingdom—at Winchester.

Later he went overseas with the 48th Division and served both in France and Italy, ultimately becoming Deputy Assistant Director of Veterinary Services. For his valuable work he was awarded the O.B.E. (Military Division) and the Croix de Guerre.

The Bournemouth Echo, in the course of a tribute, adds the following: On leaving the Army, Major Stothert commenced practising in Bournemouth in 1920, and continued to do so until his death, which will be regretted by a wide circle of friends. He was very keen on fishing and shooting and was interested in all kinds of sport. He had been a keen supporter of Boscombe Football Club; golf was also one of his favourite pursuits.

"Devoted to his work, particularly as regards horses and cattle, Major Stothert had a large number of clients in the New Forest area and was a well-known figure at the local agricultural shows."

His son, Mr. M. C. Stothert, is a chartered accountant practising in Bournemouth; and his daughter, Mrs. Dodo Bonham, is a V.A.D. serving at a naval establishment in Sussex.

Mrs. Stothert died in 1930. and to the son and daughter—Mr. M. C. Stothert and Mrs. D. Bonham—we extend sincere sympathy in their loss.

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The Late Mr. Adam Kerr, M.R.C.V.S.

An Appreciation

As recorded in our last issue Mr. Adam Kerr, M.R.C.V.S., died suddenly at his home in Ellon, Aberdeenshire, on February 4th. Mr. George Sangster sends us the following tribute :—

"In Mr. Adam Kerr the profession has lost a most upright, sincere and kind-hearted member and the community a personality of no mean calibre.

A native of Houston, Renfrewshire, he was educated at Glasgow University, Glasgow Veterinary College, and he took his final year at the Royal (Dick) Veterinary College, Edinburgh. A love of the horse and a kindly sympathy for the sufferings of the animal world influenced him in his choice of a profession. He came to Ellon in 1911 and from that time until his death he laboured in perhaps one of the hardest areas in Scotland both as regards climate and national character.

One feels that record should be made of the often sacrificial effort made by Mr. Kerr to raise the standard of professional etiquette ; rather than bend the knee to any client, if by so doing he was false to his principles, he has been known to send packing some of his best clients.

Those of us who had the good fortune to know him well found in him a good friend. He had a keen sense of humour ; indeed, he was full of fun and it is good to know that he was able to enjoy witty talk and good company right to the end."

Mr. Kerr is survived by his widow to whom our sympathy goes out in her bereavement.

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The Late Lieut.-Colonel W. S. Mulvey, O.B.E., T.D., F.R.C.V.S.

Personal Tribute

Mr. C. W. Ottaway (Royal Veterinary College) writes : "With the passing of Lieut.-Colonel W. S. Mulvey, Essex has lost one of its oldest and best known practitioners and the profession a man who has always taken a lively interest in its affairs. There may be those who have not always agreed with Mulvey's interpretation of our problems ; but none would deny his determination to hold to the views he had expressed. He had no time for hypocrisy and was not afraid to say so.

His long association with the Army was no doubt responsible for that acute sense of duty and love of discipline which contributed so much to the success of his professional career.

I remember with gratitude the few years I spent as his assistant in a very busy practice."

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LEGAL NOTES

Allegation of "Not Freshly Calved."—"These cases have been brought forward as being of considerable importance to farmers," said Mr. J. Havard Evans (counsel for plaintiffs) at Carmarthen County Court, during the hearing of two actions for alleged breach of warranty arising out of the sale of cows and calves at Carmarthen Mart. "As far as this mart, the largest in Wales for dairy cattle, is concerned, about 200 animals are sold weekly. Unfortunately, cases occur where cows are sold as freshly-calved cows when they are not freshly calved," he added.

The cases were those in which Henry Gravelle, Cottage Farm, Trimsaran, Kidwelly, sued David Davies, Beddgeraint, Brongest, Newcastle Emlyn, for £38 15s. ; and Clifford Butler, Delacorse, Laugharne, sued David Lloyd George, Keystone Hall, Camrose, Haverfordwest, for a similar amount.

The business at the mart, said Mr. Havard Evans, was subject to conditions of sale—general and special. Clause 5 in the special conditions of sale read : "Unless otherwise declared, all cows exposed for sale shall be deemed to be freshly calved." As far as the sale of the first defendant's cow was concerned, there was no contrary declaration and it was assumed to be a freshly-calved cow. However, the cow calved on April 20th, 1943, and it could not, therefore, have been a fresh calver when sold on November 4th, 1942. In a locality where weekly marts were held, a cow could only be considered as a freshly-calved cow if the calf was born from five to 14 days prior to the mart day on which it was sold. In any case, the maximum period should be 21 days.

Counsel went on to say that on May 6th, 1943, the auctioneers wrote to defendant stating the purchaser of the cow had informed them that the animal calved on April 20th. It was clear, therefore, that the cow when sold was not a freshly-calved cow. Defendant was asked to call in the office and give any explanation which he had to offer. There was no reply to that letter, and the auctioneers wrote subsequently stating that legal proceedings would be instituted and that a claim for £38 15s. would be entered.

The Judge said he found that the defendant was bound by the decision of the auctioneers in accordance with Clause 7 of the special conditions, which referred to the warranty of dairy cows.

In both cases the principle was the same and, in both, His Honour Judge Temple Morris, K.C., found for plaintiffs, with costs on Scale B, and granted a stay of execution for six weeks, in view of the possibility of an appeal.

Mr. Luke (who appeared for both defendants) : "The inference is that each of my clients brought a calf to the mart which must have been from another cow. That is a serious, criminal allegation to make. The integrity of the farmer is at issue."

The Judge : "If what you say is true all I can say is, subject to the view of the Court of Appeal, you might as well tear up the conditions of sale. The Carmarthen Mart is one of the most important in the country, and the conditions of sale are well known. In my view, if the farmer is going to ride through the conditions of sale, the position is impossible."

Mr. Havard Evans said that the auctioneers were a reputable firm, and no steps were taken without great deliberation.

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POST-WAR NATIONAL HEALTH SERVICE

The Minister of Health, announcing in the House of Commons on Thursday of last week the publication of a White Paper (H.M. Stationery Office, 1s. ; abridged edition, 3d.) explaining the Government proposals for a National Health Service, said, "The proposals described are those which the Government believed to be best calculated to achieve an efficient and comprehensive national health service. But they are proposals—not decisions—and the Government have promised that they shall be discussed with all concerned, and will welcome constructive criticism in Parliament and the country."

The chief features of the Government's plan are :—

The services of a family doctor ;

The provision of drugs and medicines and all but the more expensive appliances ;

Improved hospital service ;

Full specialist and consultant services ;

A home nursing and midwifery service, and

Special care for the teeth and eyes.

The plan provides for a continuation of the personal doctor-patient relationship and for free choice of doctor. The right of any individual to make his own private arrangements for medical attention and the right of doctors to remain out of the national scheme and continue private practice or to combine the two is preserved.

It is also proposed to continue existing voluntary hospitals as part of the general plan.

The National Health Service is estimated to cost about £148,000,000 a year, compared with £61,000,000 a year spent out of public funds at present. Of the total cost some £33,000,000 will represent payments to doctors and chemists.

The cost will be met out of rates and taxes and the contributions paid by the public to the general social insurance scheme. The remuneration of the medical profession is to be the subject of discussions with the profession, but a universal change to a salaried system is not in the view of the Government necessary to the efficiency of the national service.

The general control of the doctors in the public service will be exercised by a Central Medical Board with local committees in each area. The Board, which of course will have medical representation, will be concerned with the doctor's contract, with arrangements for post-graduate study, with the allocation of young doctors as assistants in the health centres and in separate practices, and will advise and assist the doctors as required. It will also have powers to help in the distribution of medical practice generally. It will provide the central organisation to which the new joint authorities will make known the requirements of their areas in the way of general practice. Hospitals, clinics, nursing consultants and specialists are to be fully available in accordance with area plans. Doctors who work as consultants will be attached for the most part to hospitals, but the definition of these arrangements awaits the report of Sir William Goodenough's committee on medical schools. More consultants and specialists will be required, and their distribution will have to be carefully planned. The survey now being conducted by the three Royal Colleges in London in association with the universities and the British Medical Association will arm the Minister of Health with the information necessary to the shaping of a consultant service.

ANIMAL HEALTH: THE FUTURE OF VETERINARY PRACTICE

It is significant of the re-orientation of view now taking place in the public mind regarding the importance of the veterinary profession in the national health and economy that comments on the future of veterinary practice are appearing in novel quarters. For the most part practical and well considered, they are thus to be welcomed, and among them that to which *The Estates Magazine* devotes the first article (by Mr. W. E. Barber) in its January issue, is worthy of note.

There are (he writes) many professions and industries which will find themselves at the end of this war called upon to take a completely new view of their opportunities and public responsibilities.

At the moment we think most urgently perhaps of the immediate task facing the building industries and the architectural and allied professions. Their opportunities for service to the nation in the post-war period need no underlining. The same is true not only of the agricultural industry (if it be given its chance) but of the skilled professional men whose job it is to design machinery and to continue to develop our modern knowledge of cultivations, fertilisers and seeds.

It is true above all of those whose knowledge and skill will be increasingly required in supervising the health and treating the ailments of our animal population and in giving advice regarding their breeding and physical welfare. The turn which war-time agriculture has taken though it is based on an immediate expansion of cereal crops, is bound to lead in the long run to an increase in the importance of our herds and the policy which makes national nutrition the criterion of farming practice has already put them well in the forefront. This new emphasis makes more glaring and regrettable our past and present mishandling of the problems both of animal breeding and disease. A month or so ago this country was visited by a number of well-known American farmers who came to see our war-time farming effort and to take back news of it to their colleagues in the States. It is no secret that they were profoundly shocked by our negligent treatment of the problems of animal husbandry. The latest figures available with regard to the prevalence of disease and the provision of facilities for its treatment and eradication are indeed disturbing. (Here follows an admirable summary of the addresses by the Past President and others speaking at the 1943 Congress. N.V.M.A.) Something must be said, the article proceeds, in discussing the future of the problem (common to the whole of the medical world) of the "State Service." There has always been a tendency in this country to imagine the veterinary practitioner as an infrequent and not always efficient consultant on the health of domestic pets. Some people know that racehorses of great value have their own medical attendants whose photographs occasionally appear in the newspapers in company with those of their charges. But here the townsman's knowledge ends. The veterinary surgeon is still unfortunately tied too much to the occasional care of individual animals. But it should be clear by this time that looked at from the point of view of the nation the importance of the animal group eclipses that of the individual. The task of the veterinary profession is concerned with the herd or flock rather than with the single animal, and it is in this sense that Dr. Wooldridge's statement that "the veterinary practitioner is the physician of the farm and the guarantor of the nation's food supply" should be interpreted. Curative medicine, although invaluable in cases of highly prized individual animals, and although giving greater opportunities to the physician or surgeon, is relatively unimportant. The chief medical justification for the existence of the profession is its ability to improve animal health and control their diseases in the mass. In dealing with large-scale problems of this kind the State would obviously take a hand, and (without expressing any view as to the expediency of universal State control in medicine) it should be pointed out that the State Veterinary Service which was set up with enlarged functions and personnel by the Agriculture Act of 1937 is obviously bound to grow. Its objects are at present to organise, guide and control veterinary effort and not to supersede it. This service, which comprises about 340 whole-time and just under 900 part-time veterinary officers is bound greatly to extend its programme for the improvement of animal health, a fact which has given rise to a considerable apprehension among practitioners, despite the assurance of the Minister of Agriculture that the whole-time service will not develop to the detriment of the private practitioner. The need for such a reassurance, and the hope of general co-operation among the profession which it gives, must be generally obvious.

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LONG-TERM AGRICULTURAL POLICY BASED ON LIVESTOCK

In a paper entitled "What of our herds?" presented recently to the Farmers' Club, Mr. A. P. McDougall said that time might prove to have been a regrettable error the advice given by our experts in 1939 that there should be a drastic reduction in all livestock with, perhaps, the exception of the dairy cow. Nothing that the research student had yet done, he continued, had produced a synthetic food that could displace the products and by-products of livestock.

If the cattle beast, as would seem to be so clearly proved from Continental experience, was a more thrifty wealth producer than the sheep, the duty of the State was to encourage the production of one against the other. The price policy pursued by the Ministry of Food, with, he thought, the connivance of the Ministry of Agriculture,* for war purposes, of encouraging grain farmers and discouraging meat production must be speedily changed. Were it not for the deep implanted love of the farmer for his livestock, and did he think only in terms of money, there would not be a cattle beast feeding in the yards of England to-day.

Even if a sane policy were adopted of laying now exhausted lands down to leys and of filling straw yards and cattle courts, and rebuilding those that were derelict, we were facing what might be described as famine conditions in the numbers of stock available. It was two years since he heard the Minister himself admit the need of an increase. The policy then was based on compulsion. What had been done? Literally nothing, though the need was now greater than ever. For these reasons the people of this country should demand that immediate consideration should be given to the need of a long-term policy based on stock. He used the phrase "the people of this country" advisedly, because it was to their benefit as much as to that of the farmers, and perhaps more, that wise decisions should be made.

There was one further reason. We could only guess and fear what the livestock position of Europe would be when peace came. We were warned of the holocaust in every land where the foot of the German soldier had trodden. The greater the slaughter of stock, the more difficult would it be to get the wheels turning again, and to set the people themselves to the rebuilding of their civilisation. Any shortage of grain, or even vegetables under modern conditions, with such enormous reserves of power available need only be temporary. That was not so with the products of livestock, without which the children were bound to suffer. Vitaminised chocolate was not enough. Where were the foundation stocks to come from? Should we not be prepared to play our part, and how could we do so if we ourselves were grievously short?

* In justice to the Minister, reference should be made to his insistence, in his Taunton speech last Saturday, on the over-riding importance of livestock production to meet the post-war needs of the world in the matter of meat and fats.—*Editor.*

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CENTRAL CONTROL TO MEET THE WORLD'S NUTRITIONAL NEEDS

Speaking at London University on "Nutrition and the Hot Springs Conference" Professor Sir J. C. Drummond, Scientific Adviser to the Ministry of Food, said that world production of food was not now, and had never been, large enough to meet nutritional needs. What Hot Springs visualised was adequate food production to meet all nutritional needs throughout the world. The magnitude of the problem was "terrifying," but for the first time an attempt was being made to cope with it.

British agriculture—in common with world agriculture—may be "controlled" from a central source, possibly Washington, in the years ahead, said Professor Drummond. Such "control," he added, was not likely to be arbitrary but rather a matter of good faith, and would work on the lines of each area producing crops most needed by it as well as those most suitable for it, if the recommendations of the Hot Springs conference came into practical effect. If they didn't come into such effect, the outlook for agriculture in all parts was likely to be chaotic.

From the lessons of war, the lessons of peace would be learned. Nutritional needs of peoples in different countries could be assessed and local crops planned accordingly. At the same time, with such planning of global food production and distribution, it was vitally necessary that production of all "basic" foods be increased in countries where they could be grown—and that included most countries. For such work a vast supply of agricultural experts, scientists and the like, would be needed.

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The Stewards of the Jockey Club have decided to recognise the Racehorse Owners Association, which was originally formed in 1942, with the object principally of securing the centralisation of racing and the acquiring and incorporating of all racecourses, with the exception of one or two privately owned, in a holding company under licence from the Jockey Club. By this plan, it was claimed, the whole of the profits resulting from the promotion of the sport could be used for the benefit of the sport.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal views of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

Letters to the Editor should reach the Office not later than by the first post on Monday morning for insertion in following Saturday's issue.

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TUBERCULOUS MASTITIS

Sir,—Recently tuberculous mastitis has been receiving some attention in the *Record* and I thought I would like to add my own views on the subject. As has been shown by J. T. Stamp it is not possible to detect some types of tuberculous mastitis by clinical examination. Yet many members of the profession are against pasteurisation of milk on the grounds that efficient clinical examination of herds would eliminate tuberculous milk. Is it not time that some honesty was shown on this subject?

It would be interesting to know the average time taken to clear up Section IV jobs. Some I know take three or four months or even longer, during which time known tuberculous milk is being sold to the public! I would suggest the following:—

(1) Clinical examination of all herds every quarter.

(2) At least one bulk sample of milk taken from every herd every quarter for biological examination.

(3) Compulsory heat treatment of milk from herds under Section IV investigations until the offending cow is eliminated.

Let us admit that we cannot diagnose all cases of tuberculous mastitis clinically and so call in the aid of the guinea-pig.

If this were done I imagine there would be so many Section IV jobs available that the practitioner would no longer complain about a lack of work from the Ministry.

I am,

Yours faithfully,

21, Raglan Road,
Birmingham, 5.
February 13th, 1944.

A. Wilson.

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PROFESSIONAL NEGLIGENCE AND BREACH OF CONTRACT

Sir,—The necessity of a veterinary surgeon being a member of the Defence Association was recently brought home to us and we pen these few notes in order to remind colleagues of a constant danger and to pay a tribute to the above Society.

A man came into the waiting room and asked, "What would you charge to take my bitch for whelping?" The reply given was, "It depends upon what is done; the minimum fee will be a guinea." He said, "I will pay two guineas and know where I stand and I will send along my Bull bitch." He was asked whether her last litter had been without incident and he replied, "Yes, everything all right; no trouble." The bitch arrived on the following afternoon. Soon after midnight our night attendant 'phoned to say the bitch was uneasy. One of us went across to see her and remained with her till 7 a.m. The first puppy was born quite easily at 2 a.m., and before 5 a.m. two more arrived. Three more followed in similar manner between 9 and 12 o'clock the next day, making six in all. The bitch was rough with her puppies so they were taken from her and kept in a warm basket. In the afternoon the owner 'phoned to enquire about her. He was told what had occurred and asked if he could fetch her home. He enquired, "Has she finished whelping?" Our reply was, "We cannot say." The owner came for the bitch and her six puppies and appeared to be pleased with them.

At about 9 p.m. he telephoned in a most angry and abusive manner. He said he had put the bitch and her puppies together, had gone out, and on returning found that she had given birth to three more puppies which she had killed, and that he was seeing his Solicitor in the morning. In due course we received a claim for negligence, breach of contract and damages for loss of puppies amounting to £135. As everything on our side had been well and correctly done we considered the charge of negligence to be absurd, but there was some doubt as to the question of contract and all that the term might imply to the legal mind.

Following correspondence with the Benevolent and Mutual Defence Society, and confident that everything had been done in the interests of the bitch, her puppies and the owner and that any loss that he may have suffered was due to his own negligence, we went to a good Solicitor and engaged Counsel." Counsel found the case difficult and advised settlement, saying that the Judge might find that contract was undertaken and not completed. We replied that we would contest the case and that we could get plenty of veterinary evidence to support us. Correspondence dragged on for eighteen months and entailed a great deal of worry and legal expense. We had many helpful talks with Professor McCunn and with Messrs. Driver and Hodgman. It was their opinion that we had acted properly. Our Solicitors asked the Plaintiffs to agree to transfer the case from the High Court to the County Court in view of the expenses that might be incurred, and this was agreed to, Westminster County Court being the venue. In the witness box the Plaintiff now claimed for the loss of eleven puppies and told rather a different story from that of his Counsel's opening speech.

After Professor McCunn had given evidence the Judge said that he would not require to hear further experts and remarked that no veterinary witness had been called by the Plaintiff.

Judgment was: "There had been no negligence and the contract had been fulfilled." Costs were given to the Defendant. The case was of such importance to the general practitioner that had the verdict gone against us we should have appealed. The question of contract in its legal aspect is not always appreciated in our every-day affairs. Obligations may be lightly undertaken and therein lies danger. We are writing this in order that practitioners may be reminded of their obligations in law and to urge all non-members of the Defence Society to remedy their lapse without delay. We are indeed grateful to the Society for its support and also to the colleagues who stood by us in a very anxious time.

Yours truly,

Kensington, W.8. Sutton, Stainton & Ollerhead.

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OPERATION FOR ECTOPIC TESTICLE IN THE BULL

Sir,—It was with some feeling of dismay that I read of Mr. Anderson's operation for ectopic testicle in the bull. One can but admire the enthusiasm with which the author contemplated the operation and the ingenuity and skill with which it was performed. The major point at issue, however, is whether the use of such an animal is genetically and ethically sound. Cryptorchism in the bull is by no means uncommon and allowing for the fact that this congenital abnormality is variable in degree it is reasonably safe to assume that the testicle in this case did not reach the scrotum because of a defective gubernaculum testis. I cannot agree that the bull in question was valuable. In fact it is more likely to become a menace and it is pleasing to note that Mr. Anderson, in his search of the literature, did not find evidence of a similar operation having been performed before.

Yours faithfully,

February 17th, 1944.

C. Formston.

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THE COLDLITE VAGINAL SPECULUM

Sir,—It has been represented to me, and I share the view, that your rather unusual note on the Coldlite Vaginal Speculum in *The Veterinary Record* of February 12th carries with it the suggestion that in my article which you published in the issue of January 29th I was claiming credit for the introduction of this instrument. I think, therefore, that I am entitled to draw attention to the fact that in the original draft of my article, submitted in the beginning of November, the first sentence of the second paragraph read:—

> "Early in 1942, Messrs. Vann Bros. brought out their Coldlite Sigmoidoscope which, *to meet the requirements of one of my colleagues*, they subsequently adapted as a bovine speculum."

On January 13th I received a letter from you stating that the article would be published at the earliest opportunity if I was agreeable to the deletion of the words italicised above. I thought that this was a most extraordinary request, but, in order that there should be no further delay, I replied "you have my permission but not my approval" to delete the words.

I have no desire to take any credit for the introduction of the speculum which I first saw at Cambridge. I was so impressed with its possibilities that the very next day I purchased from the manufacturers their only other bovine speculum. I think, however, that the Editorial Committee, in seeking to give Mr. Oliver Jones the credit which he deserves, has actually done him a disservice in drawing attention to *The Veterinary Record*, **54**, page 475, as this issue contains a diagram and description of the speculum which was inaccurate in so many particulars that the manufacturers had to publish, in the following issue, a letter of explanation.

I may say that the Coldlite bovine vaginal speculum now manufactured by Messrs. Vann Bros. resembles their sigmoidoscope much more closely than it does the instrument which was adapted to meet the requirements of Mr. Oliver Jones. In point of fact, I still use the original sigmoidoscope as a vaginal speculum on maiden heifers of small breeds.

Yours faithfully,

28, Lichfield Street,
Tamworth, Staffordshire.
February 17th, 1944.

H. W. Steele-Bodger.